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Teaching as a Profession[1]

THERE has been so much said in the discussion of education as a profession that I have no desire at this time to attempt a full treatment of the subject. My inclination is to speak of such aspects of the problem as now seem to have a current and special importance.

The subject of the profession of teaching has largely been discussed from the standpoint of the obligations imposed upon the individual member of the profession, but a far more profitable discussion would, at this time, cover the collective or corporate responsibility of the group as a whole. In other words, it is the profession as an organization rather than the profession as a group of individuals that I would consider this morning.

Perhaps the largest single problem confronting us now is the danger of our not advancing with sufficient speed in the direction of becoming an autonomous profession. It would be a very threatening thing indeed for physicians and surgeons if legislatures, political executives, and the public, generally speaking, should constantly interfere with the expert performance of duties in the medical profession, but that is exactly the kind of situation which faces, and will continue to face, the teaching profession.

At the outset I wish to call your attention to four distinct tendencies that are present in our current or contemporaneous social or political life, each deserving of our attention.

In the first place, our public education has never adequately escaped from the domination of politics. Great progress has been made in this direction, giving the schools an approximate independence of status which is comparable to that which has been possessed by the courts. Courts and schools do not deal at first hand with contemporaneous issues, with transient values and with the bitter, unsolved contro-

[1]Address delivered before the Department of Superintendence of the N. E. A., Washington, D. C., Feb. 25, 1926.

versies of the present. Courts and schools deal with fundamental matters; on the one hand, the established law, and on the other, established truth and fundamental social principles. We still have a great deal to do in developing the independence or autonomy of this important branch of government, because in a democracy education is certainly one of the great guarantees of a good citizenship which provides law, order, cooperation and progress.

The second thing to which I would call your attention is that under the pressure for financial economy and current ideals of government, there is a constant tendency towards centralization in the management of the government. In municipalities there is a growth of the commission and managerial forms of government. In state political administration there is the development of the highly centralized "Administrative Code," a means of gaining fiscal economy, through centralization. Every time these laymen or lawyers or fiscal managers in government proceed to centralize power, while leaving out the courts, they tend to drag in the schools. Unless the profession as a whole is alert in scrutinizing every so-called plan for economical and efficient management which tends to centralize control, the profession will lose its autonomy and the schools their independence. Every movement for the centralization of government should be watched by every school man, otherwise our favorable autonomous condition, which has been growing for 150 years in America, may be partially abandoned and the benefit of school independence lost.

The third tendency to which I would call your attention does not require any long discussion. This is the disposition of certain classes and groups, sometimes a majority, very frequently a minority, to make the schools instrumentalities of class consciousness or class opinion.

It tends to manifest itself by the influence of organized groups who wish to use the school for good purposes, but for special propagandistic purposes. I am referring now to all the special "Days" and "Weeks." I refer to such as "Home Products Day," "Mother's Day," "Safety Week," "Con-

stitution Week," varying all the way from something to which we could give substantial and hearty approval, through matters not of any great importance to the public, to things which have a purely selfish motive associated with them. Now, there are at least two evil effects of such specially imposed movements.

They disturb the whole balanced program of educational activity, where things are laid out in the curriculum and in the time schedule, upon the basis of a scheme of relative values. Every time we make a change in the teaching system of the public school by responding to local pressure and to organized propaganda, just to that extent we lose the autonomy of the profession. People get used to the practice of interference, and that is a very dangerous thing.

The fourth disturbing tendency is a modification of the one just mentioned. It is the disposition to do by state legislation what has more frequently been done by local pressure on the school board. I am referring in particular this time to the attack made on scientific studies by certain religious groups. But this is not a novel situation. Special interest pressures have often been put upon schools through legislatures. The laws of many states are cluttered up with 20, 25, 31, 35, specifications as to the course of study, which represent no balanced idea of curriculum making, but merely the extra pressure of some group with a specialized interest. Good, bad or indifferent, these specifications lead to a distorted program of training, one lacking in balance.

When we look upon these four tendencies, the profession must know that it is actually in danger of losing ground. In a democracy we must follow our fundamental philosophy. The best philosophy that I know for a democratic society, and for its state school systems, is the philosophy that says that the truth can never hurt a democracy. It certainly belongs to all classes. It is impartial among them all. It is their safest common foundation, and the common interest of all.

Democracy stands for the interests of everybody. It rose in opposition to monarchy. In the course of historical

evolution, it finally refused to permit an aristocratic class consciousness to dominate society. Yet when somebody legally or by other coercive means says we shall or shall not teach a specific scientific doctrine, we are substituting a new kind of class opinion for impartial science in public school teaching. It is a mere political grab. Some one class is trying to grab the schools for the sake of grabbing society. Let us not discount the ultimate meaning of the issue. The truth is the only safe thing for a democracy to rest on.

Now, if these four situations are real and not imagined situations, then one chief purpose of our profession is to do everything we can to gain and keep a certain wise independence for the public school system, and a certain responsible autonomy for the profession itself. How can this be done? It is not enough to point out dangers and to sense them. We should seek to organize the profession to accomplish positive good. Freed from the uttering of diverse philosophies, made by each of our chance circumstances, let us have a common educational philosophy, one thought out of our historic American social philosophy, and thoroughly consistent with it. Thus united in thought, let us organize for unified action.

One difficulty, however, at the present moment is that we are no longer a simple teaching profession. In reality, we are a complicated profession of highly specialized and supplementing educationalists. The classroom teacher, who has the vital relations with the student, is now surrounded by principals, supervisors, superintendents, scholars, textbook writers, scientific investigators, normal school teachers and a whole group of highly important and expert accessories. For the most part they are performing more complicated tasks than the teacher, but they are, nevertheless, merely accessory to the actual work of teaching.

Our danger is that of high specialization. Specialization means a centrifugal tendency in a profession, a tendency to see the common problems of our educational life from a particular angle. I would suggest the very great necessity of providing some centripetal influence to overcome the

centrifugal influence of high specialization in the profession. This is a problem in training and daily thought.

All of us so-called "educationalists," who are not actual teachers, should try to remember every working hour of our lives just how our job is related to that of the teacher. This will go far to bring about an integrated cooperation, to create a union of spirit.

More than ever before, in this day of high specialization, we should set up a demand on all teachers colleges, normal schools and university schools of education to give a larger place to the philosophy of education. While they are developing high specialists they should proceed to develop enough broadly visioned functionaries to keep all the now scattered details working together in some unified scheme. The more specialization there is in this world, the more necessity there is for the relator and the generalizer. The school superintendent, who has to unify all educational activities in terms of their ultimate purpose and relative value, is the one person who should demand that the scholarly side of our profession provide an adequate number of philosophers and integrators to offset the scattering tendencies of so many modern specialists. If we gain unity in social purpose and educational thought, our professional organization will be something more than the conglomerate it now is. Because of its potential forcefulness in large public questions, such a unified profession would go a long way towards gaining that independence and autonomy which are essential to the kind of service which American public schools should render American life.

We shall get autonomy for the practice of our profession and independence for the operation of the public school system just to the extent that we as an organized group live up to two obligations.

First, we must not offend the public's sense of fair play in our management of its educational interests. Let us remember that professional independence is a considerably different thing from personal freedom in the classroom. Every profession must have its restraints as well as its posi-

tive obligations. The teacher works under social limitations. Educational freedom is not identical with individual freedom. When the teacher teaches, he represents organized society and civilization, and not merely himself. Once he enters the classroom he stands for both more and less than himself. He must not confuse his private views with his public duties. There is a difference between what a teacher honestly believes as a person and what is proven scientifically or generally accepted socially. The schools should no more be subjest to the private partisanship of a teacher than to the organized propaganda of groups outside the school. Long ago it was settled that we should not impose our private religion and our partisan politics on our pupils. Similarly we have no right now, directly or indirectly, to insinuate into the plastic minds of youth our private doctrines or conclusions on current and unsettled economic and social issues.

There is no difference between the long-established conventions and those that I now ask you to accept. Once we had some serious differences over religion; then we said the teacher should not teach his private religion. Later we fought over partisan politics; then we said the teacher should not teach his own private politics. The heated issues are now found on new grounds. The burning controversies of today are economic and social. But the principle of restraint is the same. The teacher has no right to impress upon the mind of the child his or her own particular economic or social doctrines.

If there is a distinction between education and propaganda —and there is, in spite of the looseness with which these terms are used—it applies to those inside the school quite as well as to those outside the school. The autonomy and independence of a teacher in the classroom, like that of a judge on the bench, depends on his own self-restraint and on his fairness to those interests of society which have been committed to him. I emphasize this because many teachers do not seem to realize that the professional freedom of teachers as a group is psychologically dependent upon the exercise of a certain self-restraint. Society will give as much autonomy to the profession as it deserves.

Many persons, in their enthusiasm for education—and I now refer more particularly to laymen—regard the public schools as handy instrumentalities for social reform, as a ready means for bringing in the new Utopia. Nothing could be more fatal in the long run than for us to accept this view. Schools do *re-form* their students up to current social standards and ideals. They are reformatory of individuals, but they are not primarily or directly reformatory of society and social institutions. The schools should never become radical in that sense. The reform of social standards and ideals is better done out in the public forum of adult criticism, opinion and discussion, where all the people may participate and where the decisions are left to the mature. The classroom is no fit place for the direct reconstruction of society. The schoolrooms are in charge of one particular class or group: namely, the teaching profession. But the pathways of democracy are not to be chosen by any one class or group. It is easy to impress ideas on the children, because their minds are young and plastic and uncritical, but reform is the function of mature adults.

Russia, of course, is using its schools for propaganda purposes. The schools represent only the class opinion of those in transient governmental power. Germany, before the War, had abused the schools to achieve the special ends of the governing class. The school system should never represent the mere opinion of any class, even if it is temporarily in power. Schools should be administered as stable, fundamental, permanent things. So governments, too, must exercise a sane restraint regardless of their actual power.

It is the function of the whole of a democratic society, not merely of an intelligent class, not even of the schoolteacher class, to settle what shall be the reforms in our civilization. This is not to say that schools do not contribute to progress and reform. They do, but they do it very indirectly, and as a remote consequence of school activities. Their contribution is through the disciplined and enlightened individual whom they send out into society to function as citizens, making the current discussion and resolving the public will.

The last obligation that I wish to discuss with you is a positive and constructive one, the most important of all. I do not propose to discuss it in detail. I wish merely to mention it, to indicate its importance and to suggest its scope.

In the profession of teaching, we profess to a certain expert ability far above the powers of the layman. One reason why lay critics are so ubiquitous, and members of school boards so meddling, is that they are not sufficiently convinced of our superiority. The definition of a professionally expert service is not simple. It has social as well as personal aspects. I may be vastly superior to you in some particular line of workmanship, yet I may not enjoy the position of an expert. There is a social side to expertness. First, I must be superior as an individual; second, the other individuals of my professional group must be superior, too, so as not to dilute the superiority of the group; and third, the public must know that we are superior, and give us the social status of their recognition, trust, and respect. Expertness in a profession is scientific and technical superiority throughout the group, recognized to be such by society.

What is our obligation? To make educational practice more scientific in its spirit, its purposes, its method and its accomplishments. Just to the extent that we make our educational profession a scientific organization will society leave us alone, give us autonomy, permit us to perform our duties without undue lay interference, as the doctor performs his operation in a hospital, or guides a patient from his sickbed back to health.

Where are the crucial and important fields in which we must develop the science of education? I am not going to discuss them in detail. This is Dean Russell's special task. I merely want to make three broad gestures over the field of need and opportunity. But I must first suggest the broad topography of our situation before I may indicate the special fields requiring attention.

First of all, a teacher must know society and civilization. It is the business of education to civilize young people!

Now, a great many teachers do not possess the culture that incorporates civilization. They do not even know our social civilization. They have a lot of skill in teaching, but they are not always conscious where the skill is going to take them.

The first field in which we must develop a new scientific expertness is in the field of objectives, of knowing our social goals. No single, vague and general aim of education, such as "social adjustment," "good citizenship" or "the development of the personal capacity of the child for service" will do. The recent statement of eight, ten or a dozen supplementary objectives is very much better, but even they are inadequate. What we want are about two or three thousand specific social objectives, and not eight or ten, and certainly not just one. We need to utilize the technical methods of the job analysis, and to get the specifications of civilized living. Living in our complex civilization is considerable of a job, and what the profession needs is a job analysis of the civilized life. The facts it reveals should be the basis of our liberal courses of study. Trained investigators should come to the aid of the ordinary teacher and provide the necessary surveys of those individual contacts and adjustments with civilization that the child will have to make. As yet we have scarcely made a start in the careful investigation of life itself by those statistical methods current in modern social science.

Second, we must know the child, as well as civilization. We must know human nature. We must know the raw material which we are to transform. We must know what it is, and how it will react to social stimulation. It is in this field of educational psychology that we have made our greatest scientific progress in education. For fifteen years our point of view and technique have, in some aspects of this field, been almost revolutionary.

Third, we must bring more scientific principles and data to bear upon the field of technology or methodology, to use the archaic phrase of our craft. We are diagnosing, we are testing, we are discovering the laws of mind, but how far are we, scientifically speaking, developing a technique of

teaching? Someone in the profession is always inventing something new, and the rest of us are always ready to imitate it. This is a symptom of our open minds, our progressive spirit. As it has no adequate scientific basis, the public is able to discount these fine traits as faddistic. The presence of science would ennoble them. We need to know that a new method invented may be borrowed because it is scientifically right. What we need in this country in the domain of teaching technique or methodology is a new method of research. I would call it "Comparative experimentation in teaching methods." If there are two methods in common use, we ought to know which is the better, by scientific means. We ought to be able to set up parallel groups, measure ability when we start, and measure the differential in ability at the end. Then we should have a real and stable answer.

If we avoid abuses of public trust and make ourselves scientifically expert in the performance of our duties, then you may be sure of one thing, that society will give the schools more independence and the profession more autonomy. The final basis lies in ethical restraint and in scientific discovery.

HENRY SUZZALLO.

National Cooperation in Education

AMERICANS cooperate as a matter of course. One hundred and fifty years of persistent practice toward realization of our national motto—*E pluribus unum*—have reduced cooperation to a sub-conscious habit. Our spontaneous reaction to every proposition is cooperative. We have the will to cooperate, even though we do not always see how to express that will practically in action.

In the field of education this will to cooperate has expressed itself in a vast array of educational associations, societies, clubs and committees. Thus, the medical men have their Council on Medical Education. Here they gather to pool their wisdom and unite in evolving better training for their successors. The lawyers, the clergy, the engineers, the professors of Latin, of Mathematics, of Science, and the rest, are all doing likewise. Every specialized group now has its organization through which the members cooperate to help one another do a better job.

If there were time it would be interesting to discuss the life cycles of these myriads of groups of specialized cooperators. But even a superficial examination reveals a certain conspicuous common characteristic which is of supreme significance for the subject under consideration. For every cooperating group is always working to achieve something specific. This something may be an ideal, it may be public welfare, it may be group power, it may be increased pay; but it is specific, and it is dynamic enough to command the attention and the service of the members of the group. If it loses its grip on the members, the group languishes and eventually dies.

Effects of this intensive cooperation by specialists on matters of common interest are obvious to all. When a group is active and has a live leader, real progress is made in its specialty. The advance in medical education because

of the activities of the Council on Medical Education is an impressive case in point. And if medical education could be isolated from other school procedures, the cooperative actions of this group would doubtless soon bring its specialty to a high degree of specialized perfection.

Admirable as are the results of this specialized cooperation in advancing the competency and the interests of the group concerned, there is danger of overdoing it. If a specialized group becomes so absorbed in its own field that it fails to cooperate with other specialist groups in territory where their interests overlap, it may tend to become an organized minority or bloc that tries to get what it wants willy-nilly. Signs are not wanting that the liberal arts college is in dire perplexity because of conflicting requirements for pre-professional training by diverse specialized groups. Sound progress demands cooperation for the common good among groups of widely different interests. What is the cooperative procedure in such cases? Have the medical schools and the liberal arts colleges any common objective that is specific enough and dynamic enough to generate vital cooperation between them? What have law and medicine as a common need that is pressing enough to compel sustained cooperation in education between doctors and lawyers? How might schools and employers or their graduates help one another to turn out a better product? These questions are of profound significance at present, not only to the professions concerned, but more especially to liberal education.

Examination of the activities of a number of these groups of specialists shows that there is very little cross-cooperation among them. Professors of medicine do not know overmuch about what professors of law are thinking and doing. Similarly, in spite of the demand by practicing engineers for more liberal training for engineering, one seldom sees professors of engineering at the meetings of the Association of American Colleges. In most universities the faculties of law, of engineering, of medicine, and of arts, literature and science are distinct and autonomous bodies. The tendency among the specialist groups to play lone hands is evidenced

by such hybrids as business English, calculus for engineers, physics for medics, or commercial arithmetic.

While few will try to justify this situation, nearly everyone seems to regard it as inevitable. The universal excuse is that the mass of subject matter that must be covered in each field is now so vast that it is impossible in the time available to do more than cover the subject matter essential to each specialty. Since knowledge in every field is now expanding at an unprecedented rate, the jam is getting tighter every year. Medical men have no monopoly in this situation. Every specialized group is up against the same impasse. Hence the suggestion that perhaps the specialist groups might help one another by some sort of cooperation. One hundred men cooperating to achieve a common mission accomplish vastly more than one hundred men working independently. Is not the same true of one hundred specialized groups?

Of course this suggestion that education associations cooperate is welcome to everyone. As stated, Americans are always ready to cooperate. But if anything practical is to be accomplished, we must find a common objective that is specific and dynamic enough to command the attention and the service of all the specialized groups. Where can we find such a common objective that will be sufficiently significant to compel cooperation?

If each specialized group answers this question solely in the light of its own past experience, there will probably be as many answers as there are groups. Each group has been thinking so intently about the technical requirements of its own specialty that it is difficult for its members to see the requirements of other groups or of liberal education in proper perspective. Besides, it has been the common practice for generations for each group to set up its own curriculum and standards and ruthlessly to "weed out" all students who do not measure up to them. This practice has been so universal that until recently a trusting public has accepted the result as a matter of course. If Johnnie failed to achieve the academic standards set by the schools, it was usually conceded to be Johnnie's fault.

Recently the attitude of both teachers and parents has changed radically. Teachers say that the emphasis in school work has shifted from teaching subjects to teaching children. Parents now insist that every child has capacity to do something useful and are demanding that schools furnish him opportunity to discover that capacity and develop it. Hence the ever-increasing attention to objective tests and other reliable means of appraising human abilities; hence the sectioning of classes, honor courses and other administrative devices for recognizing individual differences; hence the growing demand for promotion on the basis of achievement instead of on the basis of time.

This fundamental change in attitude towards education has been developing slowly but steadily among educators for many years. The change in public attitude toward this matter seems to have taken place very rapidly, due in large measure to the war. For the war was a national cooperative enterprise that was dynamic enough to command the wholehearted service of everybody. In that crisis each individual citizen was vividly confronted with the question—What can I do to help? Everyone soon realized that the chances of success in the national enterprise would be greater the more nearly the manpower principle of placing every man at the work he could do best was realized. With such wholesale and vivid publicity, the idea sank in and stuck. So the public is now looking to the schools to help Johnnie discover what he is good for and lead him to it.

It is respectfully suggested that the solution of this so-called manpower or personnel problem in education is a specific objective that is dynamic enough to command the enthusiastic service of every group of specialists. Hence it furnishes a vital basis of national cooperation. Imagine, if you can, a medical school in which every student has medical interest, medical ability and medical bent. With such a student body, would not at least half of the present pesky problems vanish? And are not law schools quite as much interested in preventing men of medical capacity from entering law schools as medical schools are in securing them?

The appalling waste of the present haphazard methods of discovering individual capacity is forcefully revealed in a recent report of the current investigation of engineering education. This states that 60 per cent of the students in engineering colleges come from the top third of high-school classes and 37 per cent more from the middle third. But though 97 per cent of the students are thus of demonstrated intelligence, only 28 per cent of them graduate in the specified four years. The other 72 per cent are "weeded out" as incompetents or misfits.

It is, of course, obvious that we shall never attain an accuracy of 100 per cent in discovering human capacities and guiding them to fruitful realization. Recently at Fort Monmouth (formerly Camp Vail) the army signal school raised the percentage of men who succeed in electrical courses from 40 to 80 by rational use of known aptitude tests and demonstrated training methods. The engineering schools could doubtless do as well by using testing and training procedures that are now available. By continued experimentation and perfection of these procedures, they might soon invert their present record by eliminating 28 per cent and graduating 72 per cent of those admitted.

Discovery of better methods of appraising human abilities and evolution of appropriate activities for their development are not only effective common objectives for cooperation among educational organizations; they are also the fundamental problems in all the world's work. The word "personnel," which was seldom heard before the war, is now in general use. At conventions of industrialists and business men one now hears much of "personnel problems." All are trying to find how "to fit the man to the job." A few industrial firms have even gone so far as to recognize that their basic mission is education, and that industries prosper in proportion as employees grow because their daily occupations stimulate them to constant and persistent thought about the things they daily do, see and handle and all the relationships involved therein. Therefore the personnel or manpower problem is a vital basis of cooperation

between education and the world's work. The solution of this common problem is a sufficiently challenging mission to unite them as comrades in a common cause.

Some of the consequences of this union of education and industry are ably discussed by L. P. Jacks in the last number of the EDUCATIONAL RECORD, January, 1926. His main thesis is:—"Art is wisdom in action." As a means of developing the wisdom in action that spells mastery of the finest of all fine arts—the art of living—he suggests "that we take the toil of the world as it stands, the toil of business, the toil of industry, the toil of the professions; that we find out the wisest way of doing all that. Art has always grown out of the common work of the world, out of the effort to clothe that work with all the excellence it can bear." If we are to achieve this objective, we must in schools "give less attention to those subjects and methods which stop short when the child leaves school, which cannot be followed up when he goes out into life, and seek rather to train his mind and his body in a way that can be continued." What is wanted is "an education which they can carry with them into their work, and not merely one which adorns or amuses their leisure hours."

It is easy to see that a schooling which really enables Johnnie to discover and develop his individual capacities also trains him in a way that can be continued throughout his life. For continuous, congenial, constructive work is essential to normal growth. If the school work drives him to persistent thought about the things he daily does, sees and handles, if it liberates his creative instinct, makes him feel the thrill of real achievement, and trains him in team-play, he will enter the world's work eager and able to do a real job if given even a fighting chance. Thus industry can secure the kind of men it needs and can increase its own success by cooperating with education in solving the man-power problem.

Today the toil of the world is infinitely intricate and complex. Where shall we take hold of it in our quest for the wisest way of doing it? How shall we analyze it to discover what kinds of activities in schools will lay a foundation for

continued growth in later life? Obviously the first step is to record, classify and analyze the basic facts in the situation. What is the nature of these basic facts and how shall we proceed to cooperate in gathering them?

During the war, when it was necessary to reorganize rapidly our manpower for military purposes, those in charge of sorting, placing and training men quickly discovered that success depended on the accuracy of the answers to two specific questions, namely: What must be done? and, Who can do it? It was soon discovered that satisfactory answers to the first question were secured by writing occupational specifications, which are objective descriptions of what is actually done in every type of work. When a personnel officer has before him an accurate statement of the things that must be done on any job, he can, by interview, by tests, by study of a man's past, make a reliable estimate as to whether a particular individual can do the specified job well. And when the supply of men skilled in a particular type of work was exhausted, the job specification was found of enormous value in devising courses to train green men quickly to do the required work effectively.

Since the war a great deal has been done to develop the personnel procedures that proved significant in the emergency. As this work progresses it is becoming increasingly clearer that suitably drawn job specifications furnish a concrete foundation of fact on which we can safely proceed to a scientific solution of the manpower problem. By analysis of such specifications school men can determine what are the "fundamentals" of curricula. The activities described in such specifications are a vast mine of real cases with which live teachers may vitalize instruction. Accurate knowledge of what is done on a job, as given in such specifications, is essential for the construction of tests that will reveal reliably what types of work a person can do well. The emotional reactions of people to different kinds of work can be appraised by having them read a variety of job specifications and observing what happens. Finally, a real specification of a job that appeals to an individual acts as a

challenge that inspires him to do his best to master the task defined.

In industry, as in the army, the two basic questions—What must be done? and who can do it? are usually answered in the same order. Hence it is easy for most people to see how job specifications help industry or the army solve their personnel problems. In education these questions confront us in inverse order and in somewhat modified form, namely: What can he do? and How can he develop to do it?

While at first sight these may seem to be very different questions, answering them requires the same fundamental techniques in both cases; namely, appraising men, analysing work, and wisely adjusting men to work or work to men. Enough pioneer scientific work has now been done in developing all three of these techniques to warrant cooperative experiments on a national scale to test the validity of the procedures that appear to give reliable results. The American Council on Education is endeavoring to organize national cooperation on these several phases of the personnel problem.

A good sample of the Council's activities in this matter is the cooperative experiment with psychological examinations for college freshmen. For some years individual psychologists have been making researches on this subject at their respective colleges. The results secured failed to carry general conviction because the number of students at any one institution is not large enough to validate the statistical indications. Five of the research psychologists agreed to contribute their most promising tests to a combined test that was printed and offered to all colleges that agreed to send their scores to the Council for statistical reduction. During the first year, 140 colleges gave the test to nearly 50,000 students. This year, 160 colleges have used nearly 60,000 test blanks. A grant of $5,000 from the Commonwealth fund paid the cost of central compilation, while each institution spent at least $1,000 worth of time and energy in reducing its own tests. The reports are published periodically in the EDUCATIONAL RECORD. The test is edited and revised annually by Prof. L. L. Thurston of the

University of Chicago. By continuing this procedure for several more years, the reliability of this type of test as a measure of probable success in college will be accurately determined.

This technique of cooperative experiment is significant. Competent experts formulate the experiment. Institutions volunteer to try it. Each participating institution voluntarily gives the test to its own students at its own expense and draws its own conclusions about itself. In doing this it has the benefit of national guidance in securing the best available materials and the latest results of research. Yet local initiative is stimulated to self-activity and self-improvement merely by the facts that are brought to its attention in the process Facts are the only valid control for an education that liberates men and fits them for self-government.

The Council is just starting a second cooperative adventure in the general field of appraising men. Here such frontier conditions prevail that it has seemed wise to make a reconnaissance before acting. Therefore an expert committee has been formed with Dean H. E. Hawkes of Columbia as chairman, and Prof. L. B. Hopkins of Northwestern is on a scouting trip among fourteen Universities that are experimenting with personnel methods and personnel administration. This work is supported by a grant of $8,500 from Mr. John D. Rockefeller, Jr.'s Benevolent Fund. The facts of the situation will be in the hands of the committee by June, and it will then be possible to formulate a national procedure for further cooperative work.

A third phase of the cooperative attack on the personnel or manpower problem deals with job specifications. Now good job specifications must be written by men who by long experience have mastered the job concerned. To be useful as guides to education, they must be so worded that they are intelligible to the educators who analyze them for the purpose of discovering the basic common skills and knowledge required by all business and industry. For public schools cannot train specialized workers for any one industry, but must develop the specific skills and attitudes essential both

to success in any and to further growth of the individual. A number of industrial firms and other organizations have been working some years to develop a form of occupational specification that meets these requirements. One has finally been evolved that does this well enough to warrant inviting business and industry to write the detailed record of their activities. A grant of $12,500 has been made to the Council by John D. Rockefeller, Jr., to help support this activity for two years and Dean C. E. Hewitt is engaged in developing it.

Industrialists who have been consulted on this subject have expressed unqualified approval of the project. Seven large industrial organizations have agreed to try writing job specifications in the approved form. They are also ready to cooperate with schools in experiments on appraising men. They seem to recognize that the solution of the personnel problem is a valid basis of cooperation between education and the world's work—a safe bridge over the chasm that has too long separated school from industry.

In order to insure steady and sound advance toward laying a firm foundation of fact for further progress in solution of the manpower problem, it is suggested that industrial organizations which thus cooperate with schools in advancing education be made eligible to institutional membership in the Council. By order of the Executive Committee a constitutional amendment that will authorize this is being submitted to the Council for consideration at its annual meeting May 7-8. Such cooperation by industry in the work of the Council will speed the day when children will leave school better able to earn a living and live a life, and when industry will organize so that men and women will continue to grow by doing the world's work well.

There are two other phases of the manpower problem where organized cooperation will be beneficial to national progress. One of these is the field of liberal education or citizenship or moral training or whatever you call those factors that determine the living of a life. Scores of organizations are now working at this. Some progress toward cooperation is

being made, but there is as yet nothing specific to report. The other is the field of analyzing and interpreting the record of the world's work into usable class-room materials. The technique of doing this is well developed. Many individual institutions are doing it. But the machinery of cooperation has not yet been perfected. Progress is being made here, too, but there is as yet nothing definite to report.

The foregoing paragraphs briefly sketch the outlines of some of the more significant features of recent development and of the present situation with regard to national cooperation in education. It remains to consider how we can proceed to construct for American education a national overhead organization that will wisely guide us in the further evolution of our free institutions.

In attempting to outline a practical answer to this question, it is important to recognize that the philosophy of control of American institutions and the temper of the American people toward control are radically different from those of other nations, however much our administrative machinery may resemble theirs in superficial appearance. For example, a few years ago France happened to have a Minister of Education who did not believe in compulsory study of Classics in all French schools. He therefore had the national regulations for education changed so as to allow students to secure a baccalaureate without Latin. In a couple of years he was succeeded by a minister who believed in compulsory Classics for all, and the regulations were revised accordingly so that Latin again became compulsory for all. In America such autocratic changes in curricula may be made by individual private schools, or by an individual community under authority of the local school board. But they never work in a unit as large as a state; and on a national scale they are unthinkable.

But though autocratic Federal control over individual action never works in America, we are not without means of securing practically unanimous conformity of action throughout the nation on really vital matters like education. For example, shortly after the war unemployment was a national

menace. Thereupon the Department of Commerce organized a committee of experts to gather and classify facts significant to the situation. The President then called a thoroughly representative conference to study and interpret the facts. Their interpretation placed emphasis on local responsibility for unemployment and suggested practical ways of eliminating it. Unemployment disappeared. It was cured by voluntary local action under stimulus of a wise presentation of facts pertinent to the problem.

The use of this technique for stimulating local initiative to sensible self-activity by presentation of valid facts, wisely organized, is spreading rapidly through the Federal Departments. It is coming into even wider use by national voluntary organizations. It is the technique this Council is using in its cooperative experiments. It works. It is sound democracy. It is scientific. It makes autocratic or political control impractical. It defines a safe and sane procedure for progress in national education.

Further evidence of the rapid spread of this technique of control by cooperation based on valid facts is the appearance in Washington on March 4th of a new newspaper, The United States Daily. This paper carries on its front page the motto "All the facts—no opinion." It is backed by fifty prominent citizens and edited by David Lawrence. It contains official documents giving the actual wording of all important acts of all branches of the Federal Government. Its sponsors and editors have grasped the significance of the rapid spread of the new technique in government and have taken a noteworthy step toward stimulating it by making a wide range of important facts easily available to the public. Colleges and universities will find this new daily an invaluable aid to classes studying politics and government by the case method and to debating teams that argue current live issues.

The success of this technique depends on the scope and accuracy of the facts collected, on the validity of the interpretations made, and on the extent of dissemination of the conclusions. A dent is made on the situation when an isolated observer collects relatively few reliable facts, makes

a rational guess at their interpretation, and disseminates his report among congenial colleagues at a meeting of their specialist society or in their professional journal. The dent is slightly deepened when another repeats the process and reaches similar conclusions. It takes years by this *laissez faire* method to make a deep enough dent seriously to affect present practice. But when all such efforts in a given field are coordinated by national cooperation, the body of fact becomes sufficient to inspire confidence, the interpretation rises from a guess to a working hypothesis, and multitudes may be stimulated to experiments that will verify or refute the hypothesis.

Appalling wastes are now occurring on every hand for lack of adequate national machinery of cooperation in this new science of education. Most appalling are the wastes in elementary rural schools, where the demonstrated results of scientific studies of education have not penetrated to school boards or teachers. There are equally distressing wastes among competent researchers because of duplication of effort, lack of adequate facilities and above all lack of adequate national statistics and classified facts which only a well-equipped Federal office can gather and distribute. The validity of control by facts is now fully recognized. Competent research educators are available. Teachers are eager to be led by facts. But adequate fact-finding and fact-disseminating machinery has not been constructed. We are trying to drive a 1926 Lincoln with a "one-lunger" of the first vintage. The greatest need of education today is national cooperation along the lines just sketched. · Every essential element for this is ready and waiting, except the national agency for organizing the work. The greatest opportunity for stimulating sound progress in education in American today lies in the creation of adequate machinery of national cooperation among existing agencies.

It is certain that such national machinery will soon be set up. To meet all needs it might well resemble the present analogous organization for Commerce, which consists of a publicly controlled Federal Department and a privately con-

trolled National Chamber. These two work in close cooperation, each doing the things the other cannot do as well. Their technique of operation is the scientific technique herein described. This alone insures impossibility of autocratic or political control of commerce. But should anyone ever be so foolish as to attempt to work politics in commerce, there is the dual organization to supply the checks and balances so necessary in a republic. Education needs the same dual organization—an adequate Federal Education Office and a voluntary national federation of educational agencies operated and controlled by educational institutions. The Bureau of Education and the American Council on Education are suitable nuclei about which such a dual organization could be created, but at present neither has adequate financial support to begin to do the job. There is pressing need for action. Congress has no finer chance for constructive public service, and private wealth has no greater opportunity to help build an ever better America.

C. R. MANN.

The Future of Our Foreign Trade

THIS IS a meeting of different associations devoted to the interest of foreign trade. I have been requested to address you upon its future. There is no subject of more intense economic complexity. It is a maze of different phases of production and distribution, international relations, international finance, of merchant marine, of tariff, of trade discriminations, government controls of raw materials, allied debts, the fashions, weather, and the shift of economic movement of all sorts. Thirty minutes scarcely afford time for a preface to the subject. I wish to warn you that serious consideration of these matters does not lend itself to oratorical joy, nor can it be illuminated with humor. But the consideration of our major economic problems and the development of right policies by important associations such as yours have an interpretation into more human blessings than have rivers of oratory.

Absurd as it may seem to you, our department is frequently asked why all the worry about foreign trade, and we are admonished to cultivate our domestic market, the biggest and most profitable market in the world.

The immediate purpose of those engaged in foreign trade is remunerative adventure for the trader. But it has a far wider national importance than this and the men engaged in it are engaged in a far more significant mission.

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[1]Excerpts from an address by Honorable Herbert Hoover, Secretary of Commerce, on March 16, 1926, in New York under the auspices of the Export Managers' Club in collaboration with the National Foreign Trade Council, the American Manufacturers' Export Association, the American Importers' and Traders' Association, the Merchants' Association of New York (Foreign Trade Department), the National Association of Credit Men, the National Association of Manufacturers, the Advertising Club of New York and the Foreign Commerce Club. Reprinted from the *United States Daily*, March 17, 1926.

These excerpts are here reprinted because they illuminate the foregoing discussion on National Cooperation in Education and deal so lucidly with fundamental relationships among education, research, and industry, and with the new cooperative technique of government, international intercourse, and the material and spiritual factors in human progress.—ED.

Foreign trade has become a vital part of the whole modern economic system. The war brought into high relief the utter dependence of the life of nations upon it. The major strategy of war is to crush the enemy by depriving him of it. In peace time our exports and imports are the margins upon which our well-being depends. The export of our surplus enables us to use in full our resources and energy. The creation of a wider range of customers to each production unit gives to that unit greater stability in production and greater security to the workers.

And we may quite well view our exports from the other side of the trade balance sheet. They enable us to purchase and import those goods and raw materials which we can not produce ourselves. We could probably get along as a nation if we had to suppress the 7 to 10 per cent of our production which goes to export, but our standard of living and much of the joy of living is absolutely dependent upon certain import commodities. We could not carry on our material civilization without some of the fibers, rubber and some metals. Without diamonds we would not be able to get satisfactorily engaged to marry. The prosperity of our people in many ways can be measured by the volume of imports.

As the whole world increases in population and as its standards of living grow with every scientific invention, with every better utilization in national resources, with every step of education and desire, so does all international trade increase. Steam, electricity, the internal combustion engine and whatnot—have all of them increased the productivity of peoples, expanded their needs for imports. For decades, or for centuries for that matter, the aggregate foreign trade of the world has grown bigger and bigger. The great war set us back, but the upward movement is now resumed. We will have our share of it. In fact, as I have said, a considerable part of the imports of each nation—and therefore the trade of the world—is goods which a nation can not itself well produce. This sort of trade interlocks the whole world and increases automatically with increasing population and

increasing standards of living. By our own prosperity we have increased the exports to us of other nations by 60 per cent in volume in twelve years. The great problem in our foreign trade, however, is the export of competitive goods—but if we are intelligent we should be able to command our share of the competitive goods.

In considering our position in this respect we may well take stock of our experience in the past. In our measurement of progress we must naturally revert to pre-war for our base because of the terrific dislocation that arose from the war. Likewise, if we would have any true measuring stick we must make allowance for the shifting value of currencies.

With these adjustments on to a quantity instead of monetary basis our export trade for 1925 was 37 per cent above 1913. Likewise, as I have said, our imports for 1925 on a quantitative basis were 60 per cent above 1913. In none of the European combatant nations have exports upon a quantity basis yet exceeded their pre-war footing. Nor can this increase in our trade be laid to natural resources or non-competitive goods or some fortuitous cause. Our exports of manufactured goods—our most competitive group—have expanded even faster than the other groups in our trade, yet our factories pay the highest real wages in the world.

If we examine the reasons why we should have been almost unique among nations in this progress I believe we can justly claim that it has been due to certain distinctively American accomplishments, and that in these accomplishments lies the confidence for the future. Our expansion of foreign trade is a part of our domestic progress, both socially and economically. I would first mention the accumulative value of the intensified education, both elementary and higher, which we have been dinning into the American youth over the last 35 years. In this time we have multiplied our students in institutions of higher learning by 400 per cent. Today we have more than all the rest of the world put together. We have trained technical personnel in every avenue of production and distribution upon a scale vastly larger than that possessed by any other nation. We have realized

from this and many other causes a great advance in business organization and a great adaptability to new ideas and to shifting demand.

Our work people have increased in education and skill. Above all they are largely free from the economic fallacy that restriction of individual effort increases the number of jobs. Our national unions have long since declared against such theories. We are reaping the benefits of some 600 industrial research laboratories, mostly established in the last 12 years. They are ceaselessly searching for invention and for every economy in the use of materials and method. Under the pressures of high wage we have ruthlessly revised our industry with every new invention. Beyond this, there is great and cooperative movement in American industry and commerce for cutting out waste in a thousand directions through improved business practice, through simplification of processes and methods. Furthermore, we have had a great advantage which we must not deny, in that by volume production, made possible through a great domestic market, we have been able by repetitive processes to apply or focus every advance into standard commodities of high quality and low cost of production.

The cumulation of those forces has increased our national efficiency to a degree which I hesitate to express statistically lest we appear to exaggerate. But I might observe that by and large, while we have increased our population 16 or 17 per cent in a dozen years, we have swelled productivity of the nation by somewhat in the neighborhood of 30 to 35 per cent. Our farms produce 13 per cent more with the same number of farmers as 12 years ago; our railways carry 22 per cent more traffic with about the same number of men. We have tamed the kilowat into the friend of man. We have now domesticated some 68 billion hours of them annually where we used 23 billion 12 years ago. They increase output and decrease sweat.

These are the reasons why we are able to sell goods of high quality, produced under the highest real wages in the world in competition with goods produced under lower

standards of living. These methods are no secret. They are open to the world. But they are rooted not alone in technology, which can be adopted by all intelligent people. They are rooted in social conceptions which penetrate far deeper and which promise not only greatly for the future in our standards of living at home, but, of more pertinent interest on this occasion, they are the basic assurance of our continuing growth in foreign trade, both exports and imports. These are the fundamental forces which promise for us our share of the world's increasing demands even of competitive goods—if we keep them in motion.

But we will not hold or gain in the world's business by resting upon past accomplishment. We can hold it by increasing our effort in education, in the elimination of waste, improvement in transportation, by cultivation of scientific research, by constant scientific improvement in our business administration both at home and abroad.

The Government can be of help in all this by cooperation in a multitude of directions. Aside from the basic service of reducing taxes, of maintaining peace and protecting our citizens that they shall have enjoyment of equal rights with others, our Government can be of the utmost assistance by bringing about cooperation in the elimination of industrial and distributional waste by the recruiting of a vast amount of information as to trade opportunity and as to scientific discovery and economic currents.

During these recent years the Department of Commerce has engaged itself in vigorous stimulation of scientific research both into physical sciences and into economic questions. It has offered its services in bringing the producer and consumer in industry together for the practical elimination of waste in our production and distribution methods by cooperative effort. The Department never acts except by request and yet more than a thousand meetings have been held among such groups. Two hundred and thirty active committees are working at it today. While these efforts with the Department have accomplished many important things, yet this work represents but part of a widespread

movement in American industry. And it is all a vital part of promoting foreign trade, for it creates higher standards of quality and enables decreasing costs.

* * * * *

Nor is it enough to produce high quality goods at diminishing costs. Trade expansion calls for constantly better organized and more scientific selling. To create a sense of need abroad for our particular goods, to induce the purchase of them, is a science in itself and it is in this field that the export and import managers and merchants of our country play their part in this great mechanism. And we need more definite policies in these matters from our manufacturing executives. We need concern ourselves with longer view policies. And in these matters such associations as yours are of prime importance. Foreign markets are more difficult to establish than are domestic markets. They cannot be held by ruthlessly starving the foreign customer whenever the demand for goods at home increases, with the expectation that they can be expanded easily whenever we have a moment of depression. I said that foreign trade is a vital part of our whole system; it is not a spare part to be used in emergencies.

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In a large sense the major proportion of foreign trade is a cooperative effort among nations to secure the greatest total output and total consumption. Foreign trade is too often visualized as a sort of battle. It is a misfortune that the terminology of trade has been so infected by military terms. We speak of export trade as a matter of conquest, we talk of trade wars, trade strategy, of economic power—all carrying many implications of extermination. In larger vision our export trade does not grow by supplanting the other fellow but from the increased consuming power of the world.

I do not wish to be understood as saying that we are going to obtain our share of these increases without effort and without competition. What I wish to get clear is that in the large view our exports are not based on the destruction of

our competitors but on insistence that we shall participate with them in the growth of world demand.

* * * * *

Without entering upon any partisan discussion of the protective tariff principle, which I, of course, support, there is one phase which I believe experience shows has less effect upon the volume of international movement of commodities than had at one time been assumed.

As a result of the hardships suffered by many people of both combatant and neutral nations during the war, there came to all nations a deep resolution in so far as the resources of their countries permitted, to produce as far as possible their essential commodities. The struggle to overcome post-war unemployment has added to this impulse. The result is that 52 of the 70 nations of the world, including almost every important trading nation, increased their tariffs after the war. It might seem that these widespread protective policies would tend to localize industry and thus decrease the total volume of international trade. But it certainly appears that internal economic and social currents which make for prosperity or depression in a nation have a much larger affect upon the total volume of imports than the tariffs and thus more largely affect world trade as a whole. In our case far from our present tariff diminishing our total imports, they have increased about 35 per cent since the higher tariff came into effect. This has also been the case with other nations who have progressed in internal economy.

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In conclusion, if we can keep in motion the social and economic forces which we have developed so greatly in the last decade, if we can multiply and improve education and skill, if we still further stimulate scientific research, if we continue to eliminate industrial waste, if we still continue to improve our business organization and maintain initiative we shall hold our own in our share in the world's trade.

By contributing to peace and economic stability, by the loan of our surplus savings abroad for productive purposes,

by the spread of inventions over the world, we can contribute to the elevation of standards of living in foreign countries.

And as I end this too long a discourse, I may recall the real purpose of such labors as yours and mine. Discussion and opinion upon intensely technical questions perhaps seem to be of a world apart from the final purpose of human service. But ours is not a nation of factories, railroads, dynamos, warehouses, trade or ships. It is a nation of men and women and children. When we consider these themes of production and trade we need be indeed guided in our conclusions by that course which will promote their welfare and comfort. If by our efforts and our discussions we enlarge their standards of living it is an economic thing, but it is a far greater thing than this, for security and living and comfort yield the opportunity for that greater fullness of life of the spirit, which is the true purpose of human service.

HERBERT HOOVER.

Tuition at the University of Pennsylvania[1]

THOSE who are responsible for the management of educational institutions and for the financing of their work are becoming more and more alive to the necessity and the wisdom of putting this burden where it belongs.

The average undergradute tuition charges at the University of Pennsylvania have been $275.00 annually for full-time students. The cost of the education furnished has been more than twice this sum. Due to this condition, it has not been possible to bring teaching salaries to the level they should be.

Aware of these conditions, I have for some time been conducting an investigation of the situation in respect to tuition both here and at various other institutions. I have corresponded with the heads of these institutions and I have found that the general tendency and intention is to raise tuition fees in general and at the same time to make adequate provision for those who are entitled to university education but demonstrably have not the means to pay for it.

Letters which I have received from presidents of many institutions all confirm the thought that at present, under existing economic conditions, the student is not paying his proper part of such costs. Quite a number of institutions have this year increased their fees or will do so next year. Columbia, within five years, has advanced the point rate from $6 to $10—an increase of 66⅔ per cent. Princeton has advanced its total fees from $325 to $425. At Dartmouth the rate in 1926 has been advanced from $300 to $400.

A comprehensive survey of the entire field of the financial development of higher education, sources of educational income, allocation of higher educational costs and the student

[1]Excerpt from address delivered on Saturday, February 20, to the Alumni in Houston Hall by Provost Josiah H. Penniman.

as a financial risk, was recently completed under the auspices of the Association of University and College Business Officers. In this summary it is conclusively shown that the cost of education, which covers the primary objective that the student has in mind during his undergraduate life, is wholly out of proportion to the other expenses incident to his educational life, such as housing, clothing, food, amusements, etc. It is also out of proportion to the increased costs of building materials, supplies, wages, etc., which the University must pay.

As a result of this investigation I have recommended to the Trustees that our tuition rates be increased. This recommendation has been approved and the following rates will be in force beginning September 1, 1926: In all of the undergraduate schools and in the graduate and professional schools, other than the Graduate School, School of Veterinary Medicine, Graduate School of Medicine and the School of Dentistry, the fee for next year's entering students will be $400 per year. For students who are present matriculates of the University the fee in these schools is advanced $50 per annum, beginning with 1926–27. The Trustees have adopted appropriate resolutions recommending to the Trustees of the Thomas W. Evans Museum and Institute Society that the fee in the School of Dentistry be similarly increased beginning next year.

No change has been made in the Graduate School of Medicine fee. A flat fee of $250 will be charged for full time students in the Graduate School and Graduate Course in Business Administration. A new fee of $225 will be charged for Veterinary Medicine. New students in the five-year courses in Architecture and Landscape Architecture will pay $370 per annum. The special courses in Music are to be placed on the following fee basis: Revised Fees for present students—Course 1, $255, Course 2, $225, Special Course, $50. New Rates for new students—Course 1, $300, Course 2, $230, Special Course, $50. No change is to be made in the fees paid in the Extension Schools. The unit rate for part time students will be $25 for all schools except the

Evening School of Accounts and Finance, where the rate will be $20.

The effect which this increase will have upon our enrollment, particularly upon that of full-time students, is difficult to foresee. It is possible that there will be a temporary decrease which will bring the number of our students below that which we can adequately take care of in the schools in which we have now fixed a definite limit.

I am confident, however, that the condition will eventually stabilize itself and that we shall, before long, find our enrollment pressing at the limits fixed. If such proves to be the case, we shall be in the happy situation of having additional income.

JOSIAH H. PENNIMAN.

The Junior Year Abroad

PERHAPS the best way to explain how American undergraduates can spend the third college year in a foreign university without delaying progress toward the baccalaureate degree, is to give some account of what has happened in 1925-26 in the case of the highly selected young men and women awarded one thousand dollar scholarships by the Committee on Foreign Travel and Study and now studying under the auspices of the American Council on Education in the universities of England, France, Germany and Spain.

In England, Frank Monaghan, Jr., of Cornell University, is studying history at the University of Manchester; Miss Edna M. Wilson, of the University of Chicago, is a student of botany at Newnham College, Cambridge; and James Roland Pennock, of Swarthmore College, is pursuing work at the London School of Economics. How did these American students, after completion of only two years of college work, secure admission to these three institutions? Just how were they registered? How are their studies progressing? Will they be able to secure credit in Cornell, Chicago and Swarthmore for work done in Manchester, Cambridge and London, and if they can, how? What are the living conditions which they have found in English academic communities?

The way for these students was prepared in advance by representatives of the Council. In the spring of 1924, the Committee on Foreign Travel and Study presented to the Council a fund to be used for studying, and, if possible, developing a plan for American undergraduate study abroad. Immediately President Frank Aydelotte, of Swarthmore College, was requested to confer with the vice-chancellors of British universities on behalf of the Council. He reported to the Council that these educational leaders, although

emphasizing the importance of exchanging graduate students, approved also the reception of a limited number of highly qualified American undergraduates. Mr. Marcus Marks, a member of the Committee on Foreign Travel and Study, also visited leaders abroad and received encouragement for the general plan. Then the assistant director of the American Council on Education went to London, Oxford, Cambridge, Liverpool, Bristol, Birmingham, Manchester, Leeds, Edinburgh, St. Andrew's and Trinity College, Dublin, to work out details with vice-chancellors or principals and with registrars and advisers of students. It was his good fortune also to meet the vice-chancellors on the occasion of their June meeting in London and to confer with respresentatives of several universities in addition to those named. The opportunities for American students, graduate and undergraduate, in universities other than Oxford and Cambridge, are so important that they deserve presentation. In this report, however, there must be limitation to the experience of students at the institutions named.

At the University of Manchester, the vice-chancellor, Sir Henry Miers, now retired, well known in the United States, especially because he was a member of the distinguished British Educational Mission of 1918, always a leader in the movement to encourage interchange of British and American students, was very cordial and helpful. The notion of undergraduate study abroad is not a new one at Manchester. Indeed, those students who expect to take an Honors degree in French spend the summer term of the second year at the University of Caen and are permitted to count this term as one of the nine required terms of the course. With the University of Caen special arrangements have been made; but students go also to Paris and Grenoble. Students who desire Honors in Italian go to Italy. No satisfactory arrangement for such work in Germany at present exists. The same arrangement for foreign study exists at Edinburgh. When a similar plan was suggested for American students in England, Sir Henry Miers at once suggested that the American student submit to the registrar, Dr. Norman Smith, a state-

ment of his American college work and any provisional suggestions as to courses he wished to pursue in Manchester. He also advised early application for a room in Hulme Hall, the most important residence for men, and declared that the Senior Pro-vice-Chancellor had declared his willingness to give informal and friendly supervision to the student participating in this experiment. The Senior Pro-vice-Chancellor, Professor Edward Fiddes, had become interested in the plan during his visit to Washington in the spring of 1925, an interest which he proved also in conferences with the Assistant Director of the Council in Manchester. Other members of the Manchester faculty including the Registrar, Dr. Norman Smith, showed an eager courtesy to the Council and to the young American who desired to become one of their students. Mr. Monaghan, at Cornell, had been a student of History under Professor Wallace Notestein, whose own acquaintance with his British colleagues and the English university system was a great help in solving problems of adjustment for his student. At Ithaca Mr. Monaghan had fortunately been introduced to Professor Powicke, of Manchester. On Monaghan's arrival in Manchester, Professor Powicke, as Dean of the Faculty of History, was able to advise the student regarding his best courses and the best way to secure them.

So it was that before the university opened, Monaghan presented his credentials, which included an official transcript of his Cornell record in the usual American terms of semester hours and grades, a statement from Professor Notestein, other letters in specific terms, and a copy of his application for a scholarship with his very informing answers to the many searching questions on the application form. On the advice of Dean Powicke, he was enrolled as an "Occasional Student." This classification made unnecessary any satisfaction of the requirements of the curriculum leading to the English degree and especially released him from the group of courses prescribed for any particular year and enabled him to choose from all available courses for which he was prepared those which would best serve the requirements for

his American degree. Admitted, then, and with courses planned ten days before the university opened, Monaghan went off on a bicycle tour of Yorkshire.

On the ninth of February, Monaghan reported that imperfect knowledge of the American college system, on the one hand, and his own ignorance of the English system had led to a program of studies heavier than ordinary. Rather than disrupt his work for the second term he is carrying on with the original plan. By so doing he will doubtless establish a claim for extra credit at his American college. Even the heavy work and the new academic environment have not interfered with this student's progress. In one three hour a week course in which he took the examination, he finished second in a class of thirty. In Professor Powicke's special final-year Honors class in Medieval History he received a "first-class." These are the only examinations given up to this time. At the end of the present term he will have an examination in Social Economics and will have two theses to present. Of these, one, under Professor Neale, will be "The Election of Members of Parliament under Elizabeth"; the other, which the Philosophy Department has approved, is on Thomas Jefferson. These are among the concrete evidences of his work which he will bring back to America. He will have statements of achievement from his Manchester professors. And on his return to Ithaca he will take a comprehensive examination in accordance with Cornell policy in such cases, an arrangement understood before he left the United States. From Professor C. Wilson Smith, Secretary of the College of Arts and Sciences at Cornell, he has had assurance of every consideration in the matter of adjusting credits. Professor Notestein has expressed an opinion from the departmental point of view regarding credit for work done in Manchester. So it is likely that, in the words of Dean R. M. Ogden, the faculty will make "a reasonable adjustment."

Life in Manchester seemed likely to be most conveniently lived in Hulme Hall. It seemed so in advance to Sir Henry Miers, to the Assistant Director of the Council and to pro-

fessors in Manchester. After the first term in Hulme Hall, Mr. Monaghan moved to a beautiful suburb of Manchester where he has the good fortune to be in the home of an English lady who speaks French and reads German, and who is solicitous of the comfort and welfare of her American guest. Even the winter climate of Manchester has not completely overcome one used to central heating. He has been playing Rugby football with the university squad and, while the weather permitted, has kept up his tennis at Hulme Hall. At Cornell he had debated against Princeton and other rivals; so naturally he has found pleasure in the Union of his English university. Very early he led one debate, and shortly afterwards he represented Manchester at the University of Glasgow, where nine British universities joined in debate; later he was chosen to debate at Bristol but could not appear because of a conflict with his examination in Medieval History. More recently he was elected one of Manchester's representatives at the National Congress of Universities to be held in Cambridge, was unanimously chosen by the Liberal Party to be their candidate at a mock election at the Union, and probably he will be one of the two Manchester debaters who will oppose the team from the University of Michigan in May! It is quite apparent that a "highly selected" American undergraduate can be an acceptable member of an English university.

The spirit of Newnham College, Cambridge, in cooperating with the Council in this experiment may be learned from this letter from the Head of Newnham:

> Though it is not possible for us, owing to the lateness of the application, to take Miss Wilson into College, my committee has agreed to accept her as an out-student, and we shall be very glad to find a suitable family for her to live with in Cambridge. I ought perhaps to add that in accepting Miss Wilson as an undergraduate out-student, my Committee is making an exception, as our rule is to allow as undergraduate students only those who are living with their families. We are, however, anxious to meet the American Council on Education, and in view of the fact that Miss Wilson holds an International Scholarship and is also so highly recommended, we decided to accept her.

Miss Wilson's credentials included an official transcript

of her record at the University of Chicago, a letter from the Dean of the colleges, and, since she is a student of Botany, a letter from Professor Charles J. Chamberlain, well known to the Botanists of Cambridge and familiar with the English laboratories and educational system. In addition the Council submitted a copy of her application and several pertinent letters.

The record of her previous work was carefully studied by Mr. F. T. Brooks, Lecturer in Botany, who advised Miss Wilson regarding her courses in this field. She had already done more work in Botany than students doing Part I of the Tripos and not quite so much as those who take Part II. The courses in evolutionary and genetical subjects which she is now taking seem likely to satisfy Professor Henry C. Cowles, the Chairman of the Botany Department of the University of Chicago.

In one of the Botany classes Miss Wilson had to read Wettstein's Handbuch. She had never studied German, but with the spirit of a true scholar she tried to work up the language by herself. Miss Edith Saunders, a Newnham lecturer in Botany and a distinguished scientist, asked Miss Wilson to read German with her for two hours every week. Another Botanist who does not confine himself to imparting departmental information, twice a week informally reads the Georgics with his students. The American student of science seems to be able to hold her own in Latin with science students in England.

Life as an outstudent of Newnham College seems to be pleasant. "I could not be happier or wish for a lovelier home in all of England. I only hope that English students in American universities are treated as splendidly." Miss Wilson is living with two charming ladies who consider her as a part of their family. She has the same rules to keep as the women who live in college. Warned not to be hurt by traditional English reserve, she writes that she has not found any more reserve in Cambridge than in her own university of Chicago. "On the contrary, everyone has been extremely friendly and considerate. Being an undergraduate, I did

not expect the tutors of Newnham or the lecturers in the University to trouble a great deal about my work; but they have been perfectly splendid in helping me." Anyone who has had the opportunity to read the credentials placed before the Newnham committee can understand that this fine attitude is due to the qualifications of the student, as well as the splendid courtesy of Newnham and Cambridge.

"But how can an American undergraduate get into the London School of Economics and get credit for work done at that graduate institution?" It happens that the case of Mr. Pennock is easiest of all to handle, for at his college, Swarthmore, he has been accepted as an Honors student in social science and as such is freed from the routine of the ordinary curriculum, from class attendance and intermediate tests and grades and credit hours. Before leaving the United States, he had a conference with President Aydelotte, Dean Raymond Walters and Dr. Robert C. Brooks, regarding the general program he must follow in his third and fourth years in preparation for the Honors Examination at the end of his Senior year. Not being a candidate for a degree at the London School of Economics, he had no need for any particular form of record in arranging for admission; the records he carried with him, much like those of Monaghan, were useful, however, in placing him in courses which would best serve his needs in relation to the American degree. Though he needs no London School of Economics records for Swarthmore purposes, he can have them and may find them useful on his return. The London School of Economics is prepared to give an account of the lectures attended during each session. Moreover, the student at the end of his course will have the fortnightly essays prepared for his adviser and occasional papers for his other professors. These documents with the comments of the instructors, will be available for the American departmental representatives responsible for assigning credits in American terms. These and the written opinion of the adviser, based on these papers and discussions, will form credentials useful in case of students at colleges which do not have the Swarthmore system. Of

course the American student might take the sessional examinations. But at the London School of Economics all students in the same year and working for the same degree, take identical examinations. This means that work for the British degree is strictly prescribed and the American student would be obliged to follow closely one of the set curricula not necessarily coinciding with his own American curriculum. So again we have the case of a "free" or "occasional" student.

This student, then, in possession of a definite plan approved by his president, dean and the professor in charge of the Honors course in social sciences, a plan permitting considerable freedom, was able to confer with the registrar and adviser at the London School of Economics and to work out a schedule of seven or eight lectures a week in addition to a language course—a program which he finds "quite enough," inasmuch as each lecture implies heavy outside reading. Clearly Mr. Pennock will find it possible to make his London work count for the degree with Honors at Swarthmore.

The London School of Economics is a non-residential institution. Pennock on arrival in London, went to the American Y. M. C. A. in Montagu Street, opposite the British Museum and just around the corner from 50 Russell Square, the office of the American University Union. Later he moved to a boarding house in the same neighborhood where he procured lodging and meals for two and a half guineas a week, heat and light being extra. Heat is what American students miss most in England, the lack of central heating being commented on with good humor by Monaghan as well as Pennock, who is trying to learn the art of making a fire with "sticks." Nevertheless, after a Christmas holiday in the warm and sunny south of France, Pennock found himself regarding with affection the land of rain and fog, where "meat is mutton and cabbages are kings." After allowing astonished London one day to observe his yellow slicker, he put this into his trunk, and now he carries an umbrella. A sense of humor is a requisite for a holder of a foreign scholarship.

What of France? Here enter new problems; that of language and that of a society less like that of the United States than American students find in England. In an extreme form, the language problem was presented in the case of Milton Schilbach, of the College of the City of New York, for he had no training in French before sailing. He spent the summer at the University of Grenoble, giving all of his time to the French language. At the end of the course he received a "certificat d'études françaises." On December first, after he had been attending lectures at the University of Paris for three weeks, he wrote that he had no trouble in understanding his professors and that outside reading, of which there was a great deal, was very easy. The courses, he wrote, were no harder than similar courses would be in English.

The continental inattention to the individual student Mr. Schilbach first encountered at Grenoble where he found that university officials did not take the initiative in aiding new students to find themselves in their new environment as American colleges do in "Freshman Week." Even the students' own efforts to secure information were futile. "But," Schilbach philosophically remarked, "when once used to the system, one finds all is well." In Paris it was fortunate that he found a guide and friend in a member of his own City College faculty. In the office of Dean F. B. Robinson at the College of the City of New York, Dean Robinson, Dr. Jaffé, Mr. Schilbach and the Assistant Director of the Council agreed that in Paris Schilbach should put himself under the supervision of Dr. Jaffé, who kindly and generously consented to give this oversight. So when Schilbach went to the Sorbonne, Dr. Jaffé, already familiar with that institution, aided the young man not only to select courses but professors. Schilbach writes that he was lucky to get the exact courses he wanted and professors under whom he can work with satisfaction and gratification.

I find myself very well satisfied with my studies and with the progress which I am making. It seems to me that the undergraduate who comes over here with the intention of doing serious work can derive as

much from the studies he pursues here as from those he would follow at home. Even granting that he cannot get so much from his regular studies here, which I am unwilling to concede, one cannot possibly deny that whatever he can lose on that score will be more than compensated for by what he obtains from just living and traveling abroad. I am positive that from this year of undergraduate work in Europe, necessarily self-dependent, living under conditions entirely different from those I should have had at home, with new experiences and activities, I shall obtain much more than I should have obtained from a junior year spent in America.

But how did Schilbach get into the Sorbonne without a bachelor's degree? There is "inscription" and there is "immatriculation." The former is for those who wish to be examined for the French degree. For inscription the French baccalaureate is required. At present the French authorities accept the American B. A. and B. S. as equivalent to the French baccalaureate. As to this equivalence, there is a difference of opinion, American educators generally holding that the baccalaureate of France more nearly represents completion of the first two years of an American college. The French authorities, however, with fairness grant permission to those without the bachelor's degree to take a special examination to prove their ability to follow courses. Besides, there is a just system whereby the American student who has already studied the work of the first year of the "licence" curriculum may receive credit and be allowed to follow the advanced courses. For "immatriculation" there is a published requirement of a record of previous work. This, of course, Mr. Schilbach had in form much like the documents described in possession of Mr. Monaghan. He thought, however, that no requirement was actually made. Mr. Schilbach will not be admitted to the annual examinations. He reports to Dr. Jaffé each month with a paper on some phase of his work, and thus receives such supervision as the English tutorial system affords.

The Rector of the University of Paris has shown his interest and sympathy not only to the Council but in an interview with Mr. Schilbach when he presented his letter of introduction. The Rector offered him aid at any time and gave him

a note to the Dean of the Faculty of Law, who also indicated interest and advised Mr. Schilbach as to conduct of his studies.

Living conditions in Paris, frequently hard and expensive, Schilbach has found more than satisfactory. The members of the French family with whom he is lodging are all kind and helpful. Living economically, he believes at this time that $1,000 will cover all of his expenses including lodging and board for the entire period of his sojourn and traveling expenses from and to New York.

Like Schilbach at Grenoble, Boardman at Montpellier when he arrived a month in advance of the opening of the university could get no information regarding courses. Even a month after the opening of the institution, a catalogue had not yet been issued. Of course, from the French standpoint there is no need for such a time schedule as American colleges issue because the curriculum for students of each year is prescribed. A letter of introduction to the Rector secured attention and that officer kindly gave Boardman a note to the Dean of the Faculty of Law, who very courteously gave permission to take courses and advised him as to registration.

At Montpellier as at other French universities the Faculty of Law requires the baccalaureate for admission, two years for the "licence," and two additional years for the doctorate. At the June examinations there is a separate group of examinations for each year covering all the subjects studied that year—the first or second—of the course. Political science is Boardman's chief interest. To get all the political science possible for the purpose of satisfying his major in his American college, he registered on the advice of the Dean as a free student under the Faculty of Law. His courses in the first semester were these: International Law, a third year course meeting three hours a week and given by the Dean of the Faculty of Law; International Private Law, a third year course meeting three hours and given by Professor Jules Valéry; Relation of African Affairs and International Law, a special graduate three hour course given by Dean

Moye; History of Economic Doctrines, a graduate two hour course given by Professor Roche-Agussol; a course in French Linguistics, three hours, given by Professor Grammont. To the examinations in these courses in June Boardman as a free student will not be admitted. Instead, Dean Moye has kindly undertaken to give certificates of courses pursued, content, attendance and assiduity. Dean Moye called attention to the fact that if admitted to the examinations as a regular student, he would have had to take the examination of the first year of the "licence" course (approximating the Junior Year) and would have found only one subject in that first year of the French course bearing on his American major subject.

With French Boardman is apparently having little difficulty. In December he reported that he understood well enough and could express himself fairly well. A boarding house in which there were Egyptians, Annamites, Russians, Persians, Greeks, Norwegians and Americans and only two French students proved to be interesting internationally but not helpful to a student of French. So Boardman now is living in a smaller group maintained by two French ladies of a Protestant minister's family, prohibitionists. He is comfortable and well cared for at a reasonable cost. Like the other students, he is making the most of the opportunity to know great historical and artistic centers in his holidays.

Throwing the onus on the student is characteristic of the German as well as the French universities. William Benno Brown, of New York University, and Frederick Hillis Lumley, of Ohio State University, learned at Munich how students in Germany must look out for themselves. This is not due to any lack of sympathy, for the Rector of the University of Munich was courteous concerning each of these students as were Dr. K. O. Bertling and Dr. George Kartzke of the Amerika Institut in Berlin. At the University the students were admitted to the "small" matriculation since they did not have the baccalaureate degree. The credentials presented by Brown included his Chemistry

notebooks and textbooks, Chemistry being his principal subject. For his other courses he presented the transcript of his record and a New York University Bulletin of the College of Arts and Pure Sciences. Mr. Fritz Beck, of the Verein Studentenhaus, always ready to help, sent one of his staff with Brown to assist him in getting inscribed. For the first semester he is taking three Chemistry courses and a laboratory course. He had wanted to take Physics and Mathematics also, but discovered that each faculty makes its time schedule without reference to others, a system which does not inconvenience the specializing student.

The German system of specialization impressed Lumley, too. Dr. Honigschmid, when advising Lumley regarding courses, deplored his "lack of any specific foundation" but suggested that he take quantitative or qualitative analysis. At Ohio State, general Chemistry and Organic Chemistry are given in separate years. At Münich both are given in one year. Lumley entered the second section of the elementary course and listened to general Chemistry for five weeks and then to Organic, which is a new subject for him. Dr. Honigschmid advised a physiological course which would anticipate the one which he would have in medical school. He is inscribed also for Zoology and Physiological Chemistry. Lumley described "inscription" as very easy, not nearly as involved as an American registration. In February he wrote that he was able to make a fortunate selection of courses: the first part of his physiological course (the elementary courses are given in the spring in Germany so that students graduated from Gymnasium in April may enter the summer semester in May and immediately begin such courses), a course in organic Chemistry with special consideration of pharmaceutical problems, Organic laboratory, and the conclusion of the course in Zoology. The first two occupy the time from eight to ten, and the Zoology is offered from 5:15 to 6:15 three times a week. This enables him to spend the intervening time in the laboratory without interruption. He has been studying his Ohio State fourth-year curriculum, and his Johns Hopkins medical course in determining the sub-

jects to be pursued in Munich. This enforced self-reliance leads Lumley to comment:

> The University officials here have been very kind and have helped me in any way they could. I had an interesting talk with the Rector, in which he informed me with a cheerful shrug of the shoulders that it rested with me what I would make of myself. After the tender way in which American universities nurse along their students this seems very cold-blooded. However, it has a tonic effect. It is a direct challenge to the student to show what he can do, and I am sure many of them pick up the glove. Quite a contrast is the American system of cramming an education into the heads of students, by means of enforced attendance, constant quizzing and threatened expulsion. The freedom from prerequisites is another source of pleasure. Ohio State has a maze of courses all tied to each other by chains of prerequisites. To ensure a well balanced college course, the American student must plan his schedule before coming to college, or adopt one of the already made outlines. A hitch, and his courses resemble the misplaced strata of rock after an earthquake. As far as I can see, German universities are not nearly so particular—they leave it to the student to have secured a good foundation for the course he is going to take. Upon the student's confidence in his ability rests the choice of any particular course.

Both Brown and Lumley found living conditions more expensive than they had anticipated. Brown secured his first lodging through "Wohnungsamt;" Lumley, through the American Consulate. During the first semester, Lumley paid 200 M. monthly for lodging and board; during the second semester he paid 50 M. for his room, 8 M. for light and service, and extra for heating. A breakfast of four rolls and three cups of cocoa with sugar costs 55 pf. His other meals average 3 M. a day. Opera comprises a large item in his expense account.

The letters of all these students are full of interesting material—keen and kindly observations of their foreign friends and equally keen comment on American customs. One very interesting effect of frequent discussion with their foreign colleagues is the desire to know more thoroughly the literature, art and history of their own United States.

In Madrid two students, one from Yale, Clyde E. Dickey, Jr., and one from Princeton, Robert E. Huse, Jr., have been pursuing courses at the Centro de Estudios Históricos. The

result of the Spanish experiment is still in doubt. Mr. Dickey has been obliged to return to New Haven for family reasons. Mr. Huse remains in Madrid. Mr. Huse writes in a recent letter that even if he cannot get credit from Princeton for the work pursued in Spain, he will feel that his year in Spain at this time has been well spent, that he gladly would again undertake the year abroad even if it postponed his degree a year, and that he would advise other students so to do.

The foregoing paragraphs have presented specifically the issues involved in the cases of the holders of the scholarships of the American Council on Education. It would be interesting to select passages from the Smith Alumnae Quarterly (February, 1926) in which one of the Juniors of Smith College now in Paris expresses satisfaction with the plan to spend the Junior year abroad. It would be informing to have an explicit account of the working of the Vassar plan and that of the University of Delaware. The experience of those responsible for these groups coincides with that of the Council.

This experience has led the Committee on Foreign Travel and Study to offer to the American Council on Education scholarships for the year 1926-27. There will be at least seven scholarships of $1,000 each; one for a student of New York University presented by Mrs. Andrew Carnegie; one for a student of Amherst College and one for a student of the College of the City of New York, both given by Mr. Aaron Naumberg; one presented by Mr. S. W. Straus and three given by Mr. Felix M. Warburg.

The Committee on Foreign Travel and Study is especially eager to encourage students to go abroad at their own expense, as in the case of members of the Delaware, Vassar and Smith groups. It is to be hoped that other colleges will organize similar units. It is to be hoped, moreover, that for individual students of other colleges the University of Delaware will be willing to make provision, possibly sending in addition to Professor Kirkbirde, who has been in charge of the Delaware foreign study plan, another properly qualified

man and an able woman from the Delaware faculty, so that a group of fifty or more can be adequately supervised. It is to be hoped also that arrangements can be completed soon with French educators, so that the problem of examinations in courses not now tested according to American collegiate methods may be satisfactorily solved.

In the countries in which students working under the American Council on Education auspices have been received there is a cordial desire to continue the experiment. Emphasis must be placed upon the desirability of including in the experiment only gifted students. They must be not less than eighteen years of age, must have been in residence at an American institution approved by the Council, must expect to return to an American college for the fourth year and to take the degree. During the student's college career, he must have given evidence of sound health, as known by the college health officer; high mentality, as exhibited by mental tests and scholastic records; seriousness of purpose, as shown by a definite plan for his career; intellectual interests and attainments, as proved by his use of leisure as well as working hours; intellectual promise, as suggested in the foregoing and other ways, to his instructors; high moral character and loyalty to American institutions.

Such students, as has been abundantly shown, can be received in some of the great universities abroad, can secure instruction which can be recognized by American educational authorities and without delay can proceed to their American degrees after an experience which includes not only the normal academic advancement, but such an understanding of people of other nations as may be the basis for a genuine friendship among individuals and nations.

DAVID ALLAN ROBERTSON.

The Psychological Test Program

THE SERVICE project of the American Council on Education to supply psychological examinations to the colleges has been very widely accepted. The project was started in the fall of 1924, with a psychological examination written by several authors. The tests were given in 121 colleges, and a brief report with norms for some of these colleges was published in two articles in the "Educational Record."[1] Since there seemed to be such a general call for this service project, it was continued. This year's list of participants includes 166 colleges and universities. The present report cannot possibly do justice to the extensive data that have been collected, but we can present here two sets of facts in which there is very general interest, namely, the norms of performance in the eight tests, and the average score for each college in each of the eight tests.

The 1925 edition of the examination contains eight parts, as follows:

1. ***Completion Test.*** Prepared by Prof. H. T. Moore, Skidmore College.
2. ***Arithmetic Test.*** Prepared by Prof. L. L. Thurstone, University of Chicago.
3. ***Artificial Language.*** Devised by Mr. Stuart C. Dodd, and submitted by Prof. Carl C. Brigham, Princeton University.
4. ***Analogies I.*** Adapted from Thorndike Intelligence Examination, Part I, Forms D, E, N; by Glen U. Cleeton, Carnegie Institute of Technology.
5. ***Analogies II.*** Prepared by Prof. Lewis O. Anderson, Hibbing Junior College, and Prof. V. A. C. Henmon, University of Wisconsin.
6. ***Number Completion.*** Prepared by Prof. L. L. Thurstone, University of Chicago.
7. ***Absurdities.*** Submitted by Prof. L. L. Thurstone, University of Chicago.

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[1] L. L. Thurstone, "Psychological Tests for College Freshmen." Educational Record, April and October, 1925. All of these studies have been made possible by a grant from the Commonwealth Fund.

8. *Opposites.* Prepared by Prof. Carl C. Brigham, Princeton University.

Each college on the participating list was asked to report the distribution of scores in each of the eight tests. We have received these data from fifty-five colleges, and the results are reproduced in Tables 1 to 8, inclusive. The first column of each table gives the range of scores. The scores were not grouped in class intervals. The frequency tables are prepared so as to show the frequency and percentile rank for each score. This facilitates accurate comparative studies. The second column shows the frequency, and the third column, the corresponding percentile ranks.[2] The sum of the frequency column shows, of course, the total number of students who took the test in all the colleges combined. A percentile rank of .50 indicates median performance. A student with a percentile rank of .50 is exceeded by 50 per cent of the 15,000 college students who have taken the same test, and, similarly, 50 per cent of them get a lower score than he does.

It should be noted that, if the score of any student is compared with these percentile tables, his relative standing is indicated with reference to the total of 15,000 students in 55 colleges. If his relative standing is to be ascertained for his own college, it will not necessarily be the same as it is when compared with the records for the whole country. For example, a student who makes a score of 10 in the Completion Test is practically at the median score for the whole country. If, however, he happens to be in a college where the general performance on this test is low, then he might conceivably rank relatively high in that school. If he has a score of 10 in the Completion Test and he happens to be in a college where the performance in this test is exceptionally high, he might rank relatively low in that college and still

[2] These percentile ranks were calculated so as to be correctly balanced for the mid-percentile for each score. Errors are frequently made in the method of calculating percentile ranks. For one of the methods for calculating percentiles, see L. L. Thurstone, "Fundamentals of Statistics," Chapter 16.

be at the average for the whole country. Unfortunately, space does not allow in this report the publication of detailed frequency distributions for each college. Therefore, we give only one table of frequencies and percentile ranks for each test for all of the colleges combined.

In order to facilitate the comparison among the colleges, we are including one table showing the average score of each college in each of the tests. In the first column of Table 9 we have the names of the colleges. Since it is of some interest to note the sex differences on the various tests, the averages have been tabulated separately for men and women. In addition to these separations in the data, the several professional schools, or departments, have been given individual entries. This is of some significance where the differences between the several schools, or departments, in a university are noticeable. Where the frequencies are rather small, these separations have not been made.

The third column shows the number of students who took the tests, and, where they were slightly different, the total number for the Completion Test was used for this entry. The remaining columns contain the arithmetic mean score for each test.

As previously mentioned, it is of some interest to notice the sex differences in the tests. In several of them, the women consistently do a little better than the men, and in several other tests the men do consistently better than the women. Since there is, as far as the authors are aware, no loading of the tests to favor either men or women, these consistent differences in the means may be taken as fairly safe indices of sex differences. This is, of course, not the place to discuss the issue whether the differences are native or acquired.

The three best colleges in each of the tests are as follows:

In the Completion Test, the three colleges that rank highest are, in order of achievement, Cornell University, Wells College, and Dartmouth College.

In the Arithmetic Test, the three colleges that rank highest are, in order of achievement, Case School of Applied Science,

Cornell University Engineering Department, and University of Alberta.

In the Artificial Language Test, the three colleges that rank highest are, in order of achievement, Mt. Holyoke College, Wells College, and Massachusetts Agricultural College (Women).

In the Analogies I Test, the three colleges that rank highest are, in order of achievement, Massachusetts Agricultural College (Men and Women, both in their separate and combined scores), Mt. Holyoke College, and Wells College.

In the Analogies II Test, the three colleges that rank highest are, in order of achievement, Mt. Yolyoke College, Massachusetts Agricultural College (Women), and Dartmouth College.

In the Number Completion Test, the three colleges that rank highest are, in order of achievement, Case School of Applied Science, Cornell University, and Massachusetts Agricultural College (Women).

In the Absurdities Test, the three colleges that rank highest are, in order of achievement, Mt. Holyoke College, Wells College, and Pomona College (Women).

In the Opposites Test, the three colleges that rank highest are, in order of achievement, Dartmouth College, Mt. Yolyoke College, and Wells College.

In a subsequent report, and with the aid of additional data which we cannot adequately present here, a study can be made of the differences between large and small colleges, the north and south, the east and west and middle west, the state universities and the privately endowed universities. Several other comparisons of this sort can be readily made on the basis of these extensive records.

In addition to the 55 colleges listed in Table 9, the tests have been used in the colleges listed below. The records from these colleges have not been tabulated because they had not been received at the time when this report was written. Combining these two lists, we have a total of 166 colleges on the participating list.

1. Adelphi College
2. Alma College
3. Amherst College
4. Atlanta University
5. Augustana College and Normal School
6. Beloit College
7. Bucknell University
8. Carleton College
9. Carroll College
10. Carthage College
11. Central College
12. Central Michigan Normal School
13. Chicago Normal College
14. Clark University
15. Coe College
16. Coker College.
17. Colgate University
18. College of Industrial Arts
19. College of Pacific
20. College of Puget Sound
21. College of William and Mary
22. Connecticut College
23. Converse College
24. Creighton University
25. University of Delaware
26. Depauw University
27. University of Detroit
28. Emory University
29. The College of Emporia
30. Florida State College for Women
31. Franklin and Marshall College
32. Friends University
33. Georgian Court College
34. Gettysburg College
35. Hamilton College
36. Hamline University
37. Haverford College
38. Hillsdale College
39. Hiram College
40. Hope College
41. Howard College
42. Howard University
43. University of Idaho
44. Illinois State Normal University
45. University of Indiana
46. Iowa Wesleyan College
47. Junior College
48. Kansas State Teachers College
49. Kenyon College
50. Lafayette College
51. Lehigh University
52. Marietta College
53. Massachusetts Institute of Technology
54. Meredith College
55. Middlebury College
56. Miami University
57. Michigan State Normal School
58. Mt. Mercy Academy
59. Mt. St. Joseph's College
60. University of Nebraska
61. University of Nevada
62. New Mexico College of Agriculture
63. College of New Rochelle
64. New York Institute of Accountancy and Commerce
65. University of North Carolina
66. Northeastern University
67. Northern Normal and Industrial School
68. North-Western College
69. Ohio Wesleyan University
70. Oregon Institute of Technology
71. Parsons College
72. Pennsylvania College for Women
73. Purdue University
74. Reed College
75. St. Bonaventure's College
76. College of St. Elizabeth
77. The St. Mary College
78. St. Mary's College
79. St. Stephen's College
80. St. Xavier College (Chicago)
81. St. Xavier College (Cincinnati)
82. San Mateo Junior College
83. Shorter College
84. Shurtleff College
85. Southern Methodist University
86. Stanford University
87. State Teachers College (Harrisonburg, Va.)
88. State University of New Mexico
89. Stephens College
90. Stephens Junior College
91. Swarthmore College
92. Thiel College
93. University of Toronto
94. Transylvania University
95. Tulane University of Louisiana
96. University of Vermont

97. University of Virginia
98. Wabash College
99. Washington College
100. Wentworth Military Academy
101. Western Reserve University
102. Wesleyan University
103. Winchester School
104. Winthrop College
105. University of Wisconsin
106. Yankton College
107. Y. M. C. A. (Cincinnati, O.)
108. Y. M. C. A. (Columbus, O.)
109. Y. M. C. A. (New York City)
110. Y. M. C. A. (San Francisco)
111. Y. M. C. A. (Youngstown, O.)

It has not been possible with the facilities at our disposal to make similarly extensive studies of the correlation between the test records and the scholarship grades. Such studies are, however, being made by a number of individual colleges, and the reports will appear in the form of separate articles in the various educational and psychological journals.

L. L. THURSTONE.

TABLE 1.—COMPLETION TEST

Frequency Table and Percentile Ranks for 15,888 *Students in* 55 *Colleges*

Score	Frequency	Percentile Rank	Score	Frequency	Percentile Rank
0	92	.003	19	359	.896
1	143	.010	20	303	.917
2	384	.027	21	241	.934
3	501	.055	22	257	.949
4	756	.094	23	148	.962
5	852	.145	24	167	.972
6	1047	.205	25	107	.981
7	1050	.271	26	83	.987
8	1135	.339	27	47	.991
9	1030	.408	28	57	.994
10	1098	.475	29	30	.997
11	955	.539	30	17	.998
12	975	.600	31	10	.999
13	873	.658	32	3	.999
14	853	.712	33	3	.999
15	646	.759	34	1	.999
16	664	.801	35	....	....
17	460	.836	36	....	....
18	540	.868	37	1	.999

TABLE 2.—ARITHMETIC TEST

Frequency Table and Percentile Ranks for 15,887 *Students in* 55 *Colleges*

Score	Frequency	Percentile Rank	Score	Frequency	Percentile Rank
0	112	.003	11	1199	.735
1	237	.014	12	1097	.807
2	418	.035	13	814	.867
3	702	.070	14	623	.913
4	906	.121	15	452	.945
5	1211	.188	16	284	.970
6	1443	.271	17	189	.985
7	1514	.364	18	87	.993
8	1600	.462	19	48	.997
9	1528	.561	20	15	.999
10	1408	.653			

TABLE 3.—ARTIFICIAL LANGUAGE TEST

Frequency Table and Percentile Ranks for 15,889 *Students in* 55 *Colleges*

Score	Frequency	Percentile Rank	Score	Frequency	Percentile Rank
0	140	.004	38	202	.884
1	27	.010	39	243	.898
2	83	.013	40	184	.911
3	132	.020	41	195	.923
4	142	.029	42	228	.937
5	159	.038	43	170	.949
6	178	.049	44	78	.957
7	192	.060	45	88	.962
8	183	.072	46	53	.967
9	201	.084	47	46	.970
10	242	.098	48	44	.973
11	278	.114	49	37	.975
12	320	.133	50	32	.977
13	334	.154	51	49	.980
14	371	.176	52	23	.982
15	604	.207	53	26	.984
16	618	.245	54	23	.985
17	681	.286	55	21	.987
18	710	.330	56	22	.988
19	639	.372	57	30	.990
20	503	.408	58	11	.991
21	537	.441	59	13	.992
22	420	.471	60	14	.993
23	529	.501	61	9	.993
24	674	.539	62	6	.994
25	524	.576	63	11	.994
26	492	.608	64	10	.995
27	606	.643	65	3	.995
28	409	.675	66	6	.996
29	359	.699	67	7	.996
30	432	.724	68	6	.996
31	353	.749	69	12	.997
32	346	.771	70	10	.998
33	416	.795	71	10	.998
34	269	.816	72	6	.999
35	265	.833	73	5	.999
36	352	.852	74	11	.999
37	225	.871			

TABLE 4.—ANALOGIES TEST I

Frequency Table and Percentile Ranks for 16,682 *Students in* 55 *Colleges*

Score	Frequency	Percentile Rank	Score	Frequency	Percentile Rank
0	426	.013	26	290	.347
1	137	.030	27	249	.363
2	163	.039	28	364	.381
3	152	.048	29	276	.400
4	158	.057	30	358	.419
5	174	.067	31	314	.440
6	195	.078	32	465	.463
7	164	.089	33	354	.488
8	202	.100	34	502	.513
9	199	.112	35	429	.541
10	239	.125	36	487	.569
11	205	.139	37	404	.595
12	302	.154	38	581	.625
13	241	.170	39	449	.656
14	304	.186	40	681	.690
15	274	.204	41	503	.725
16	239	.219	42	598	.758
17	230	.233	43	486	.791
18	238	.247	44	678	.825
19	181	.260	45	534	.862
20	247	.272	46	689	.898
21	175	.285	47	491	.934
22	220	.297	48	539	.965
23	172	.309	49	209	.987
24	219	.320	50	112	.997
25	184	.333			

TABLE 5.—ANALOGIES TEST II

Frequency Table and Percentile Ranks of 14,949 *Students in* 54 *Colleges*

Score	Frequency	Percentile Rank	Score	Frequency	Percentile Rank
0	343	.011	13	654	.457
1	455	.038	14	739	.503
2	599	.073	15	806	.555
3	700	.117	16	871	.611
4	620	.161	17	930	.671
5	511	.199	18	886	.732
6	408	.230	19	903	.792
7	393	.256	20	837	.850
8	410	.283	21	750	.903
9	416	.311	22	501	.945
10	498	.341	23	343	.973
11	534	.376	24	175	.990
12	611	.414	25	56	.998

TABLE 6.—ABSURDITIES TEST

Frequency Table and Percentile Ranks for 14,957 *Students in* 54 *Colleges*

Score	Frequency	Percentile Rank	Score	Frequency	Percentile Rank
0	63	.002	13	572	.272
1	87	.007	14	698	.314
2	163	.015	15	641	.359
3	200	.028	16	709	.404
4	217	.042	17	713	.452
5	246	.057	18	817	.503
6	249	.074	19	875	.560
7	318	.093	20	991	.622
8	335	.114	21	1012	.689
9	397	.139	22	1159	.761
10	465	.168	23	1237	.842
11	461	.199	24	1059	.918
12	580	.233	25	693	.977

TABLE 7.—NUMBER COMPLETION TEST

Frequency Table and Percentile Ranks for 16,314 *Students in* 54 *Colleges*

Score	Frequency	Percentile Rank	Score	Frequency	Percentile Rank
0	797	.024	13	1158	.573
1	317	.059	14	1054	.641
2	292	.077	15	962	.703
3	338	.097	16	881	.759
4	408	.119	17	818	.811
5	483	.147	18	733	.859
6	553	.178	19	573	.899
7	681	.216	20	502	.932
8	760	.260	21	381	.959
9	916	.312	22	280	.979
10	1032	.372	23	140	.992
11	1092	.437	24	60	.998
12	1103	.504			

TABLE 8.—OPPOSITES TEST

Frequency Table and Percentile Ranks for 16,711 *Students in* 55 *Colleges*

Score	Frequency	Percentile Rank	Score	Frequency	Percentile Rank
0	367	.011	16	266	.940
1	609	.040	17	244	.955
2	1082	.091	18	147	.967
3	1305	.162	19	104	.974
4	1428	.244	20	84	.980
5	1356	.327	21	72	.984
6	1402	.410	22	71	.989
7	1391	.493	23	58	.992
8	1393	.577	24	50	.996
9	1199	.654	25	39	.998
10	1002	.720	26	6	.999
11	977	.779	27	1	.999
12	704	.830	28	....	....
13	570	.868	29	....	....
14	431	.898	30	1	.999
15	352	.921			

TABLE 9.

Average Scores of the Colleges in the Eight Tests

	Sex	No. of Students	Completion	Arithmetic	Art. Language	Analogies I	Analogies II	No. Completion	Absurdities	Opposites
University of Alberta	M	160	13.26	11.91	22.03	26.78	14.19	12.76	16.02	9.03
University of Alberta	F	72	12.57	11.15	29.79	35.56	15.11	12.63	17.18	9.32
Albion College	M F	209	10.85	8.84	23.11	28.62	12.91	11.00	17.14	6.59
Allegheny College	M	114	12.88	10.04	20.90	36.06	14.08	14.46	17.83	8.31
Allegheny College	F	60	11.17	8.17	19.28	38.03	14.75	13.15	17.82	8.52
University of Arkansas	M	307	9.32	9.14	16.56	23.44	10.47	10.02	14.23	4.83
University of Arkansas	F	168	8.26	6.59	22.38	25.30	11.08	8.35	15.62	5.96
Baker University	M F	172	9.30	7.91	20.15	25.94	9.15	8.81	15.39	5.67
Birmingham—Southern College	M	247	8.76	8.20	14.47	19.78	8.75	9.32	12.45	4.91
Birmingham—Southern College	F	103	8.49	6.27	22.56	25.19	10.83	8.28	14.40	5.67
Bradley Polytechnic Institute	M	161	9.28	9.20	17.89	24.69	11.35	11.21	14.41	5.99
Bradley Polytechnic Institute	F	90	8.82	7.39	24.05	29.80	12.03	9.23	15.56	6.67
Case School of Applied Science	M	188	12.94	12.27	23.58	34.76	16.09	16.02	18.55	8.27
University of Chicago, Arts & Lit.	M F	566	13.43	8.89	26.43	32.76	14.59	12.14	18.39	9.05
University of Chicago, Commerce	M F	107	12.94	9.61	24.70	30.51	12.75	11.96	18.30	8.03
Colorado State Teachers College	M F	359	10.25	7.50	20.79	26.43	11.20	.....	16.00	7.10
University of Colorado	M	223	12.13	9.19	21.66	29.64	12.74	12.25	17.47	7.14
University of Colorado	F	284	11.58	7.47	28.45	32.71	13.60	10.75	19.45	8.00
Cornell College	M	115	9.63	9.10	16.62	25.94	11.70	10.96	15.96	5.10
Cornell College	F	129	9.06	8.02	23.34	30.02	11.92	9.40	17.05	6.02
Cornell University, Agriculture	M F	154	13.81	10.00	24.14	29.02	.....	13.49	.....	8.81
Cornell University, Arts	M F	430	15.37	10.35	34.43	36.33	.....	15.01	.....	10.93
Cornell University, Engineering	M	213	15.07	12.15	26.20	34.10	.....	16.27	.....	9.60
Cornell University, All Schools	M	676	15.19	11.22	27.94	33.24	.....	15.32	.....	9.74
Cornell University, All Schools	F	250	12.36	8.29	34.53	34.91	.....	12.58	.....	9.91
Dartmouth College	M	629	14.24	10.20	27.42	34.71	16.81	14.66	15.80	14.04
Dickinson College	M F	196	12.08	9.35	27.85	28.34	12.77	12.33	17.81	7.81
Drake University, Lib. Arts	M	117	10.59	8.68	23.26	30.61	12.44	11.86	17.97	6.29
Drake University, Lib. Arts	F	82	10.49	7.04	32.38	32.83	14.00	11.23	18.28	7.40
Drake University, Education	M	16	6.75	7.75	16.38	22.38	8.94	10.25	14.44	2.75
Drake University, Education	F	127	7.02	6.31	24.42	25.44	9.66	8.25	15.24	5.51
Drury College	M	76	10.24	9.16	17.75	26.76	11.85	11.26	13.83	5.53
Drury College	F	77	10.75	6.83	26.71	28.30	12.01	8.97	15.37	7.35
Fresno State Teachers College	M F	316	10.16	7.00	21.21	28.56	10.44	9.13	16.33	6.22
Geneva College	M	90	11.04	9.89	20.03	26.63	10.02	12.87	15.28	6.00
Geneva College	F	65	9.91	7.38	27.46	28.11	12.65	9.78	16.46	6.91
Gustavus Adolphus College	M	70	8.16	9.03	21.04	24.89	11.86	10.97	15.31	5.04
Gustavus Adolphus College	F	61	8.38	6.64	27.93	25.56	10.52	8.13	14.70	5.15
Hobart College (William Smith)	M F	149	12.16	8.21	27.07	30.12	12.95	12.00	15.78	7.94
Kalamazoo College	M	77	11.09	9.71	19.36	24.43	12.39	11.43	16.26	6.19
Kalamazoo College	F	45	10.02	8.04	27.69	32.71	14.49	10.76	17.56	8.11
Lake Forest College	M	65	11.22	8.65	22.22	27.65	11.86	10.51	14.26	6.71
Lake Forest College	F	26	9.08	7.73	26.12	27.62	14.58	10.50	13.81	7.12
Loyola University	M	164	10.20	8.38	19.82	23.86	9.45	9.79	14.52	6.89
University of Maryland	M	244	11.00	8.95	18.98	25.25	11.00	11.27	16.08	6.53
University of Maryland	F	66	9.30	7.30	27.15	30.08	11.03	9.95	16.82	7.21
Maryville College	M	111	8.59	7.63	17.68	20.01	8.84	9.23	12.74	4.74
Maryville College	F	173	7.19	5.40	20.97	22.24	8.75	6.66	13.34	5.20
Marywood College	F	54	9.37	4.61	23.50	21.65	7.33	5.81	14.58	6.33
Massachusetts Agricultural College	M	129	11.12	9.01	25.46	41.32	14.81	15.01	17.84	8.13
Massachusetts Agricultural College	F	38	13.58	9.39	37.50	45.50	17.14	15.13	20.00	10.08
Meredith College	.....	161	5.17	4.93	20.19	18.62	8.11	6.59	10.57	4.16
Milsaps College	M	109	8.38	8.21	17.99	21.74	9.62	8.68	12.91	4.88
Milsaps College	F	26	8.50	6.65	26.35	30.19	13.00	11.42	16.38	5.77
Morningside College	M	89	9.02	8.59	17.47	25.88	11.01	10.18	14.90	5.69
Morningside College	F	104	8.32	7.34	24.24	30.78	11.02	8.79	16.43	6.23
Mount Holyoke College	F	281	14.01	9.70	38.45	40.46	17.41	15.08	21.78	11.86

TABLE 9.—Continued

	Sex	No. of Students	Completion	Arithmetic	Art. Language	Analogies I	Analogies II	No. Completion	Absurdities	Opposites
College of Mt. St. Vincent	F	137	10.40	6.60	7.83	28.41	13.53	10.57	17.70	8.80
Nebraska State Normal School	M	47	10.40	8.72	25.25	28.98	12.83	11.26	16.66	6.06
Nebraska State Normal School	F	153	7.95	7.56	31.21	34.44	11.66	9.61	16.67	5.52
University of New Hampshire	M	336	9.72	8.65	18.34	25.78	11.99	11.52	16.18	5.79
University of New Hampshire	F	100	8.66	6.23	24.67	28.08	12.52	9.39	17.97	7.42
University of New Mexico	M	93	11.84	8.45	19.12	32.48	11.33	12.17	16.07	6.81
University of New Mexico	F	64	12.31	7.75	25.65	34.70	12.78	11.63	17.42	7.73
New York University	M	180	12.72	9.62	24.41	28.12	13.83	13.81	16.32	8.28
Northwestern University	M	314	13.70	9.69	23.27	29.76	13.85	12.71	17.71	8.24
Northwestern University	F	387	11.92	7.64	29.16	33.01	14.39	11.27	19.07	8.74
Oregon Agricultural College	M	230	10.97	9.50	16.51	26.70	12.22	10.95	16.57	6.55
University of Oregon	M	450	10.91	8.63	17.77	25.44	11.78	10.16	15.81	6.41
University of Oregon	F	404	9.88	6.40	24.96	29.60	12.44	8.43	17.87	7.47
Pomona College	M	124	13.56	9.78	22.50	32.81	15.85	13.81	19.55	8.31
Pomona College	F	104	13.59	8.28	30.37	35.65	15.77	12.32	21.00	9.54
Ripon College	M	93	8.81	8.63	15.87	23.00	10.99	10.11	13.95	5.64
Ripon College	F	47	7.89	7.04	24.89	24.57	9.94	7.64	13.13	6.17
Rosary College	F	132	11.73	6.92	.....	33.86	12.98	9.55	18.17	8.33
Seton Hill College	F	60	9.43	6.57	35.37	28.93	11.30	8.53	16.46	7.48
Syracuse University, Applied Science	M	73	11.66	10.01	21.64	29.92	13.59	13.78	16.89	7.70
Syracuse University, Lib. Arts	M	726	12.28	9.57	23.34	31.08	13.68	12.84	17.12	7.74
Syracuse University, Lib. Arts	F	514	10.91	7.74	28.59	34.88	14.72	11.10	18.25	8.20
Tufts College	M	69	13.06	10.87	27.55	31.68	16.22	14.88	18.84	7.95
Vanderbilt University, Arts & Science	M	143	11.39	9.36	22.67	26.53	13.36	12.02	16.71	6.72
Vanderbilt University, Arts & Science	F	41	11.71	6.90	32.02	32.73	15.56	11.68	18.54	8.56
Vanderbilt University, Engineering	M	62	11.84	9.79	21.97	25.53	11.70	11.56	17.02	6.81
Webster College	F	55	10.38	6.82	24.89	29.44	10.70	8.91	17.65	8.55
Wells College	F	73	14.33	8.56	38.40	39.36	15.52	14.41	21.32	11.71
West Va. University, Arts & Science	M	129	9.97	7.81	16.95	24.63	10.16	9.77	15.72	5.88
West Va. University, Arts & Science	F	134	8.93	5.96	22.68	27.22	10.22	7.86	15.76	6.59
West Va. University, Engineering	M	106	10.08	9.02	17.05	24.10	11.66	11.06	15.11	5.73
West Va. University, Law	M	66	10.35	7.68	14.58	22.92	9.73	9.05	15.11	8.13
West Va. University, Medicine	M	61	.....	7.41	15.67	22.80	8.61	8.82	14.54	6.48
Wilson College	F	142	11.90	8.30	33.72	36.01	15.41	13.39	18.71	10.12
Winona State Teachers College	M	74	10.68	9.27	15.78	24.58	11.64	11.43	14.51	5.59
Winona State Teachers College	F	446	8.63	7.63	23.80	29.85	13.74	10.70	16.42	6.36
Wittenberg College	M	204	10.22	9.16	20.80	26.61	10.85	10.73	15.82	5.90
Wittenberg College	F	137	9.36	7.36	30.72	33.27	12.18	11.07	17.12	6.89
College of Wooster	M F	312	11.38	8.96	25.82	35.33	13.50	12.30	16.95	7.95
Y. M. C. A., Chicago	M	73	13.10	9.08	19.21	28.99	13.27	12.95	17.90	7.42

Editor's Note

In order to bring to the readers of the EDUCATIONAL RECORD articles, reports and studies that have important bearing on the work of the Council but are too long for the body of the journal, the Executive Committee has authorized the addition of a supplement. The first issue of this herewith tells the story of experiments in education and personnel methods that have been made by the Army since the war. Other appropriate topics that will be treated in subsequent issues are: Psychological Tests for Freshmen, Methods of Personnel Administration in Colleges, Making and Interpreting Job Specifications, etc. The supplement will be bound with the EDUCATIONAL RECORD and delivered to all subscribers without charge. It will also be reprinted as a separate pamphlet for sale to those particularly interested in the subject treated.